

Multi-function Fiber Laser Kinetic Aviation Hazard Sensor, Phase I

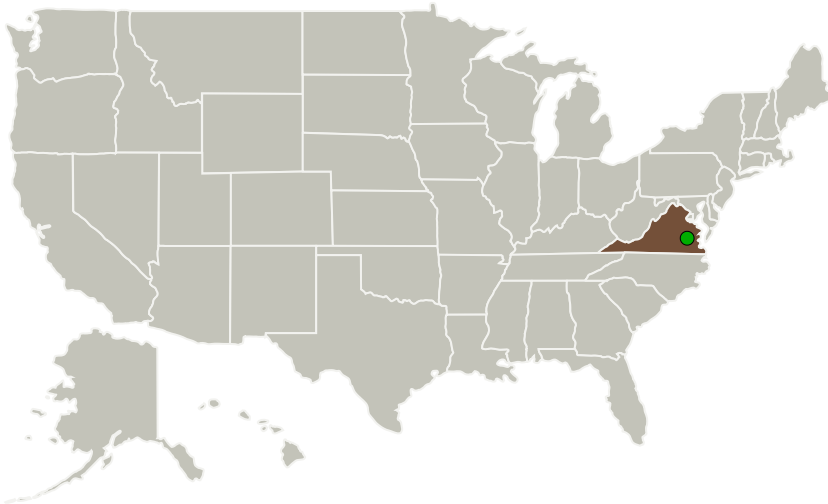
Completed Technology Project (2012 - 2012)



Project Introduction

Fibertek proposes a multi-function, high energy, eye-safe 1550 nm band pulsed fiber-laser lidar system for airborne sensing of various kinetic aviation hazards. The lidar system includes the laser transmitter, the receiver, a telescope, and a scanner. The lidar functionality will include ground and air speed measurement, wind and wake sensing, altitude measurement and terrain mapping, reduced visibility sensing, and ice sensing. The proposed system is based on Fibertek's proprietary laser architecture that utilize state-of-the-art fiber optical, electro-optic and RF analog and digital electronic component technologies. The expected TRL range at end of SBIR Phase I is TRL 2, and at the end of SBIR Phase II is TRL 4-5. We expect to deliver a packaged prototype lidar system at the end of Phase II for NASA laboratory and field testing.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Fibertek, Inc.	Lead Organization	Industry	Herndon, Virginia
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia



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Primary U.S. Work Locations

Virginia

Project Transitions

 **February 2012:** Project Start

 **August 2012:** Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/138330>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Fibertek, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

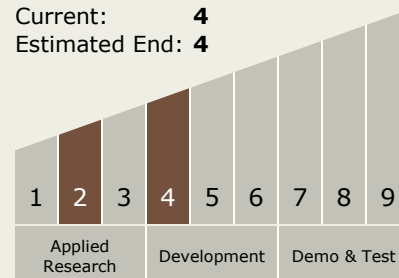
Mehmetcan Akbulut

Technology Maturity (TRL)

Start: 2

Current: 4

Estimated End: 4



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Technology Areas

Primary:

- TX16 Air Traffic Management and Range Tracking Systems
 - └ TX16.2 Weather/Environment

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System